

CLAIMS

1. A method for estimating the time-dispersion of a channel
 5 comprising D subchannels, wherein one computes from a received signal a set
 of estimated Channel Transfer Factors (CTF's) $\hat{H}[v]$, where v ($0 \leq v < D$) is the
 subchannel number, said method comprising a step of calculating, for a
 predetermined strictly positive integer d , a correlation factor C_d representing the
 correlations, both in amplitude and in phase, between pairs $\hat{H}[v]$ and $\hat{H}[v+d]$
 10 of said computed CTF estimates.

2. A time-dispersion estimation method according to Claim 1,
 characterized in that a normalized expression for said correlation factor C_d is:

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(|\hat{H}[v]|^2 + |\hat{H}[v+d]|^2 \right)},$$

where the sums over v are carried over available pairs of said computed CTF
 15 estimates.

3. A time-dispersion estimation method according to Claim 1,
 characterized in that a normalized expression for said correlation factor C_d is:

$$C_d \equiv \left(1 + \frac{1}{\zeta_u} \right) \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(|\hat{H}[v]|^2 + |\hat{H}[v+d]|^2 \right)},$$

where ζ_u is the mean channel estimation signal-to-noise ratio, and the sums
 20 over v are carried over available pairs of said computed CTF estimates.

4. A time-dispersion estimation method according to anyone of
 Claims 1 to 3, characterized in that it further comprises a step of looking-up in a
 pre-constructed mapping table a value of channel excess delay τ corresponding
 to the value of said correlation factor C_d .

5. A time-dispersion estimation method according to anyone of Claims 1 to 3, characterized in that it further comprises a step of adapting some link parameters as a function of the value of said correlation factor C_d .

6. A device (100) for estimating the time-dispersion of a channel comprising D subchannels, said device receiving as an input a set of estimated Channel Transfer Factors (CTF's) $\hat{H}[v]$, where v ($0 \leq v < D$) is the subchannel number, computed from a received signal, characterized in that it comprises a correlations unit (102) capable of computing a correlation factor C_d , where d is a predetermined strictly positive integer, representing the correlations, both in amplitude and in phase, between pairs $\hat{H}[v]$ and $\hat{H}[v+d]$ of said computed CTF estimates.

7. A time-dispersion estimation device according to Claim 6, characterized in that it also comprises a parallel-to-serial unit (101) capable, when provided with a CTF vector $\hat{\mathbf{H}}$ as an input, of providing said correlations unit (102) with a series of individual CTF's $\hat{H}[v]$ classified by successive subchannel number v .

8. A time-dispersion estimation device according to Claim 6 or Claim 7, characterized in that a normalized expression for said correlation factor C_d is:

$$C_d \equiv \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(\left| \hat{H}[v] \right|^2 + \left| \hat{H}[v+d] \right|^2 \right)},$$

where the sums over v are carried over available pairs of said computed CTF estimates.

9. A time-dispersion estimation device according to Claim 6 or Claim 7, characterized in that a normalized expression for said correlation factor C_d is:

$$C_d \equiv \left(1 + \frac{1}{\zeta_u}\right) \frac{2 \cdot \left| \sum_v \hat{H}^*[v] \hat{H}[v+d] \right|}{\sum_v \left(|\hat{H}[v]|^2 + |\hat{H}[v+d]|^2 \right)},$$

where ζ_u is the mean channel estimation signal-to-noise ratio, and the sums over v are carried over available pairs of said computed CTF estimates.

10. A time-dispersion estimation device according to anyone of
 5 Claims 6 to 9, characterized in that it also comprises a look-up table (103), capable of providing a value of channel excess delay τ corresponding to the value of C_d .
11. A time-dispersion estimation device according to anyone of
 Claims 6 to 9, characterized in that it also comprises a link adapter responsive
 10 to the value of said correlation factor C_d .
12. A modulated-signal reception apparatus, characterized in that it comprises a device according to anyone of Claims 6 to 11.
13. A telecommunications network, characterized in that it comprises at least one reception apparatus according to Claim 12.
- 15 14. A data storage means, characterized in that it contains computer program code instructions for executing steps of a method according to any one of Claims 1 to 5.
15. A data storage means according to Claim 14, characterized in that it is partially or totally removable.
- 20 16. A computer program, characterized in that it contains instructions such that, when said program controls a programmable data processing device, said instructions mean that said data processing device implements a method according to any one of Claims 1 to 5.